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ABSTRACT

The obvious necessity for a freshman English course which is geared to the individual student's needs, prior preparation, and writing behavior prompted the formation of an experimental course at the University of Texas. Three major components--diagnostic tests, contracts, and computer-assisted instruction--provide the framework for a student-centered, individualized, and self-paced course design. Using the results of a diagnostic test (with grammar, sentence-combining, and essay sections), the instructor outlines the student's course of study as sentence, paragraph, and essay objectives. This outline serves as the student's personal course syllabus and contract. Upon completion of the contract and demonstration of competence in each of the objective areas, the student is finished with the course. The student's progress and later review are facilitated through use of seven instructional computer modules which may be used as unit supplements, independent units supplemented by a handbook, or review units. (JM)

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Three Behavioral Approaches to the Teaching of College-Level Composition: Diagnostic Tests, Contracts, and Computer-Assisted Instruction

Susan Wittig

Most colleges and universities in the United States require that a student complete one or two semesters of a course variously called "Freshman English," "Basic Composition," or "Communications 101." The course content--a combination of reading, writing, and discussion assignments designed to help the student develop his writing skills and improve his reading speed and comprehension--is usually outlined by the English department or by a committee of advisory faculty, but in large universities it is typically taught by graduate student teaching assistants with little or not interest in the fine art of composition and with less training in either the subject matter or in the pedagogical strategies that might help them communicate it. As a result, while the content of the Freshman English course may be logically and coherently conceived by the department and may even be set down in a syllabus for the day-to-day benefit of novice teaching assistants, the actual classroom learning situation is unstructured and largely uncontrolled, and whatever learning the student may achieve is largely accidental. But for all its problems, the course remains one of the most important--perhaps <u>the</u> most important--in the undergraduate curriculum. Not only because of the

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size of the student population (at the Austin campus of the University of Texas this year we enrolled 5000 students in the first semester writing course), but also because of its potential significance to each student, Freshman English is one of the most crucial courses in the university.

It has been only recently, however, that any attention has been given to the clear specification of the content and organization of Freshman English in terms of individual students' need and prior preparation, or to the kind of writing behavior a student might demonstrate when he successfully completes the course, or to the supplementary use of interactive computer modules in the teaching of grammar and syntax. In response to this need, a small number of "self-paced" or individualized programs in basic composition, and a much smaller number of computer-assisted instructional sequences in syntax and grammar have been developed in recent years. I would like to describe one such experimental course, currently taught at the University of Texas at Austin, in terms of the three major components of its learning environment: diagnostic tests, contracts, and computer-assisted instruction. These components provide the basic framework for a course design which is student-centered, individualized, and largely self-paced (fig. 1). During orientation, the student takes the English

Composition Test (The ECT), a national norming examination, which gives a fairly reliable indication of his earlier preparation and the level of his writing skills. On the basis of his score on the test, he may "place out" of Freshman English or is required to take the course; once he has been assigned to it, he may elect to take a regular classroom course or one of the experimental "individualized" sections. At the beginning of the term, he is tested again, with several instruments which reveal more specifically the areas of his writing strengths and weaknesses. Armed with the results of this test (which I'll describe in a moment), and with the student's diagnostic essay, the instructor can make a number of specific recommendations for the student's course of study. These recommendations, outlined in a three-phase sequence and expressed as sentence-, paragraph-, and essay-objectives, become the student's contract, which serves as his own personal syllabus for the course. When he completes that contract, and when he demonstrates his competency in each of the objective areas, he is finished with the course.

The diagnostic test consists of three components (fig. 2): a grammar section that gives an indication of the student's mechanical difficulties--punctuation, spelling, subject-verb

agreement, pronoun usage, and so forth; a sentence-combining component that allows us to judge whether the student can produce linguistically-sophisticated and complex sentences; and an essay componant that gives an indication of his ability to order ideas and express them clearly and completely. Students with mechanical problems usually begin the sequence of course modules in sentence composition, but supplement their work with short programmed modules or worksheets that focus on their individual difficulties. Both the supplementary programmed modules and the regular course modules include post tests which assess the student's progress and serve as an indicator of the technical competencies he has achieved. A major problem in teaching writing skills, however, is analogous to the competency-performance dichotomy in linguistics: a student may indicate technical competency in a specific area on a post-test (that is, he may show that he <u>knows</u> a particular grammatical or syntactical form), and yet samples of his free-writing indicate that he is still having problems in that area (that is, his <u>performance</u> competency is unchanged). This gap between competence and performance is often a very difficult one to bridge; we have learned, however, that if the teacher knows exactly in what areas the student has demonstrated technical competence, he can then pay careful attention to those problems on the free-writing assignments that accompany each module, and can call to the student's attention any remaining

problems in that area. Here, a solution to the problem may lie in continued and careful revision for that student, until the new skills he has learned become a regular part of his performance as well. In ordinary courses, the dichotomy of technical competence and performance competence is not clearly recognized, and teachers often penalize students for not knowing what they have not been taught; in this course, the emphasis is on bringing more closely together what the student knows about English grammar and syntax and about larger units of discourse and how well he performs in his free-writing tasks. His objective is to reach not only a level of technical competence, but of dependable performance as well, and we have learned that the teacher's continued emphasis on revision skills plays a significant role in this particular objective.

From a researcher's point of view, the sentence-combining component of the diagnostic test is the most experimentally innovative section of the test. Our observations of the students who have taken this course indicate that complexity in sentence structure is a remarkably accurate predictor of over-all success in other critical areas of writing competence (fig. 3), in the organization and development of ideas,

in semantic proficiency, and in that very fuzzy area vaguely called "creativity." Sentence "maturity" can be described as the controlled embedding and conjoining of reduced sentence elements into longer, more complete, more informative sentences. In fact, an informal survey of several sections of the course indicated that students who score high on the sentence-combining section of the diagnostic test were perceived by the teacher as being among the best writers at the end of the course; those who score lowest as among the poorest writers (fig. 4). Additionally, we have found that students who score high on this section of the diagnostic test make fewer "mechanical" errors and have fewer spelling problems. Other research indicates that maturity in sentence-structure is associated with physical and mental maturity: the older a writer and the more education he possesses, the more syntactically mature sentences he is likely to produce (fig. 5). Adult writers are capable of extremely complex syntactic structures, while young students can manage very little syntactic complexity. Interestingly enough, this difficulty is also indicated in a student's reading abilities: in oral reading sessions--"miscue" sessions--that I conducted with forty students, those who scored low on the sentence-

combining component of the diagnostic test, and whose free-writing indicated that they were capable of producing only very simple sentences, also demonstrated moderate to severe difficulty in reading complex sentences, and were often so confused by the syntax of the sentence that they completely lost track of its meaning. The reading difficulties of these students have relatively little to do with vocabulary problems and a great deal to do with syntactic problems. The sentence-combining section of the diagnostic test, then, allows the teacher to single out and pay careful attention to those students whose writing and reading skills are not sufficiently strong to support his work in other courses; together with other components of the diagnostic test, it can provide a reliable measure of the student's syntactical maturity, a measure which may also predict his success in other areas of composition and reading.

The second important aspect of this individualized course is its use of the learning contract as a way of establishing the students' objectives at the end of a particular phase of the course, or at the end of the course. Basically, the students' work consists of three contract areas: a sentence-skills contract, a paragraph-skills contract, and

an essay-skills contract. After the student has completed the diagnostic sections, the teacher reviews his work with him, pointing out the necessary areas of improvement. In order to avoid frustrating him with the prospect of a whole semester's work laid out in detail, however, the teacher outlines his work on only one of the three phases at a time, beginning with the sentence phase (fig. 6, fig. 7). For example, a student might already have mastered most of the relatively simple skills of coordination, but might still need work with the more complex task of coordinating whole sentences; if he has not already learned to use the appositive or the relative clause as a way of producing more mature written sentences, he might be asked to include that task as part of his contract. In addition, he is responsible for improvement in the mechanics of composition: spelling and graphics. The study materials that he will use to complete this contract are specified, as well as the completion dates that will keep him moving at a reasonable pace throughout the term. Other contracts in other study-areas are also written.

The contract system implemented in this course is based on the principle that each student has <u>specific</u> writing needs which are significantly different from those of his classmates.

Even when needs match, however--for example, many students have typical problems with organization--learning rates do not, and often less well-prepared students who are forced to compete in terms of learning rate find themselves at a disadvantage in comparison to other students in the class. Additionally, students are not equally motivated, and differences in learning rate--particularly in composition courses--may be a product of lack of motivation or of outright hostility. In a course, organized on a contract basis, hostility is minimized, because the student feels that he is being treated as an individual, that the course is relevant to his own immediate needs, and that the teacher is personally interested in his improvement. On the course evaluations, responses indicate that even initially hostile students who expected to do poorly in English composition were pleased and surprised at their progress in the course, and at the level of their own interest and motivation. The use of undergraduate proctors, an integral part of this course, provides additional motivational incentive, because a competent proctor can help the student overcome shyness, fear, or insecurity--factors that contribute heavily to his lack of motivation. Particularly, the proctor helping the student to work through his contract,

can stress his writing strengths, rather than his weaknesses, and can help him develop the self-confident sense of his own success that is so crucial to the development of a credible rhetorical stance.

The student's progress through the course and his later review of what he has learned is facilitated through the use of seven instructional computer modules which may either be used as unit supplements, as independent units supplemented by a handbook, or as review units. The student inputs his response to a computer question on a keyboard; his answer and the computer's response to his answer appear immediately on a cathode ray tube in front of him. These interactive computer modules cover such typical areas as sentence patterns, noun formation, coordination, the use of adverb clauses, and so forth. Each module consists of a number of sections--instruction sequences which present from three to eighteen learning "steps" on a particular problem, a series of sentence-exercises selected randomly from a pool of sentences specific to the learning activity, and a remedial section that pin-points the student's weaknesses and offers remedial exercise. In addition, the student works through a set of free-writing exercises--paper-and-pencil style--and a lab proctor discusses

his work, and the computer lesson, with him. He may repeat the module whenever he wishes, or whenever his teacher recommends a review of the material; the sentence pools are large enough so that he probably will not work more than a few sentences twice.

The computer modules have been in class use for a semester, and we have gained some sketchy data on them. The English Statistical Analysis Package returns an individual student's scores on a single module, compared to that student's cumulative scores on all modules (fig. 8). It also compares the scores of any individual to those of a group (fig. 9); the group may be defined in any number of ways: by sex, ethnic group, age, other test scores, and so forth. The program will also return composite scores for any number of groups, indicating average times and average scores for all modules (fig. 10). The students report that they enjoy this mode of instruction for these materials, partly because they enjoy the novelty of manipulating the computer and responding to it, and partly because it is completely accessible to them: the computer works day and night, and the lab is nearly always open. Our best success, of course, is with that large group of students who are already interested in the workings

of computers: engineering majors, computer-science majors, science majors. A few other students, however, feel that the machine--any machine--is unfeeling and impersonal, and we have decided that these students probably should not participate in that kind of learning activity. A student's attitude toward computer-assisted instruction is determined early in the course, and the extent of his work with the computer modules becomes a part of his learning contract, replacing some standard course modules and supplementing others.

The design of this course came about as the result of a great dissatisfaction with regular pedagogical methods and with standard course content. Students learn by various means and at various rates, and the expectation that so personal a skill as writing can be taught to twenty-five students in an ordinary classroom, by the lecture-discussion method, has begun to seem almost ridiculous. Behavioral technology and its application to the learning environment has played a large role in the design of the experimental course, but perhaps an even larger role was played by our conviction that students are individuals, and that educational design must take that individuality as the basis for any course.

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Department of English, Fall 1974

NOTES

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[1] Kellogg W. Hunt, Sentence Structures Used by Superior Students in Grades Four and Twelve, and by Superior Adults, Office of Education, U.S. Department of Health, Education, and Welfare, Cooperative Research Project No. 5-0313. Also see Grammatical Structures Written at Three Grade Levels, NCTE Research Report, No. 3.